Claims:

1. A wound care bandage comprising:

(a) a collagen matrix formed for placement on a wound,

(b) a cover configured for placement over the wound to provide a sealed environment around the wound and adapted for communication with a vacuum source, and

(c) a structure for placement between the collagen matrix and the cover and configured to provide a vacuum space.

2. The bandage of claim 1, wherein the collagen matrix comprises a submucosa layer.

3 The bandage of claim 2, wherein the submucosa layer is an SIS layer.

4. The bandage of claim 3, wherein the SIS layer includes one or more sheets of SIS.

5. The bandage of claim 3, wherein the SIS layer is fenestrated.

6. The bandage of claim 1, wherein the bandage further includes a biological glue for positioning between the wound and the collagen matrix for holding the collagen matrix stationary relative to the wound.

7. The bandage of claim 6, wherein the glue is a fibrin sealant.

8. The bandage of claim 1, wherein the cover includes a first surface and a second surface and the first surface includes an adhesive for adhering to skin adjacent the wound.

9. The bandage of claim 8, wherein the cover further includes a port adapted to communicate with the vacuum source.

10. The bandage of claim 3, wherein the structure is a porous pad including air passageways between the cover and the SIS layer to define the vacuum space.

11 The bandage of claim 10, wherein the pad is adapted to be cut to fit the wound.

12. The bandage of claim 10, wherein the pad comprises a flexible material.

13. The bandage of claim 10, wherein the pad has a thickness of approximately 1-2 centimeters.

14. The bandage of claim 1, wherein the structure is a ring having an aperture defined by an inner wall of the ring and wherein the vacuum space is defined by the collagen matrix, the cover, and the inner wall of the ring.

15. The bandage of claim 1, wherein the structure is a semi-rigid wall configured to lie spaced-apart from the collagen matrix and adjacent to the cover.

16. The bandage of claim 15, wherein the semi-rigid wall includes a lower member adapted to lie adjacent a patient's skin surrounding the wound, an upper member configured to remain in a spaced-apart relationship from the SIS layer, and a middle member integrally coupled to the upper and lower members, the middle member provided to support the upper member in the spaced-apart relationship with the SIS layer.

17. The bandage of claim 15, wherein the semi-rigid wall is dome-shaped.

18. The bandage of claim 1, further comprising tubing for connecting the cover to the vacuum source.

19. A wound care bandage comprising:

(a) an SIS layer adapted to be placed on a wound, and

(b) a cover configured to be placed over the wound and the SIS layer to provide a vacuum space between the SIS layer and an inside surface of the cover, the space being connectable to a vacuum source.

20. The bandage of claim 19, further comprising a vacuum tube for connecting the cover to the vacuum source.

21. A method for promoting wound healing comprising the steps of:

(a) providing a wound care bandage having an SIS layer adapted to be placed on a wound, a cover to be placed over the wound to provide a vacuum space above the wound, and

(b) creating a vacuum within the vacuum space to controllably draw blood from the wound into the SIS layer placed over the wound.

22. The method of claim 21, wherein the vacuum is applied at intervals of application and non-application to controllably draw fluid from the wound into the SIS layer.

23. The method of claim 21, wherein the vacuum source is applied at a constant rate to controllably draw blood from the wound into the SIS layer.

24. The method of claim 21, wherein the creating step includes creating a vacuum of about 0.1 to about 0.15 atmospheres.

25. The method of claim 21, further comprising a structure positioned to define the vacuum space between the SIS layer and the cover.

26. A method for promoting wound healing comprising the steps of:

(a) applying an SIS layer to a wound surface,

(b) placing a support structure over the SIS layer,

(c) placing a cover over the wound, SIS layer and support structure to define a vacuum space,

(d) connecting the cover to a vacuum source, and

(e) creating a vacuum within the vacuum space.

27. A method for promoting wound healing comprising the steps of:

(a) applying a first collagen matrix to a wound surface,

(b) creating a vacuum space in communication with the wound and the first collagen matrix, and

(c) generating a vacuum within the vacuum space in a magnitude and duration sufficient to draw blood from the wound into the first collagen matrix.

28. The method of claim 27, wherein the first collagen matrix comprises a submucosa layer.

29. The method of claim 28, wherein the submucosa layer is an SIS layer.

30. The method of claim 27, wherein the creating step includes positioning a structure between the first collagen matrix and the cover to provide the vacuum space.

31. The method of claim 30, wherein the structure is a porous pad including air passageways between the cover and the first collagen matrix to define the vacuum space.

32. The method of claim 30, wherein the structure is a ring having an aperture defined by an inner wall of the ring and wherein the vacuum space is defined by the first collagen matrix, the cover, and the inner wall of the ring.

33. The method of claim 30, wherein the structure is a semi-rigid wall configured to lie spaced-apart from the first collagen matrix and adjacent to the cover.

34. The method of claim 27 wherein the vacuum is provided in periods of application and non-application.

35. The method of claim 27 wherein the vacuum is generated for a sufficient period of time to begin integration of the first collagen matrix into the wound surface, and further comprising the step of placing a second collagen matrix over the location of the first collagen matrix.

36. A kit for promoting wound healing comprising:

(a) a submucosa layer for contacting the wound,

(b) a porous pad, and

(c) a cover for creating a seal around the wound and configured for communication with a vacuum source.

37. The kit of claim 36, further comprising a vacuum tube.

38. The kit of claim 37 wherein the submucosa layer is SIS.